

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2004/007297

International filing date (day/month/year)
21.05.2004

Priority date (day/month/year)
28.05.2003

International Patent Classification (IPC) or both national classification and IPC
F25B49/02, F04B49/06, F04B39/02

Applicant
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☒ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	4-13, 19-24, 26-35
	No: Claims	1-3, 14-18, 25, 36-37
Inventive step (IS)	Yes: Claims	none
	No: Claims	1-37
Industrial applicability (IA)	Yes: Claims	1-37
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

- 1 The following documents are referred to in this communication:

D1 : PATENT ABSTRACTS OF JAPAN vol. 014, no. 152 (M-0953), 23
March 1990 (1990-03-23) -& JP 2 013748 A (TOSHIBA CORP; others: 01),
18 January 1990 (1990-01-18)
D2 : PATENT ABSTRACTS OF JAPAN vol. 2002, no. 07, 3 July 2002
(2002-07-03) -& JP 2002 081770 A (DAIKIN IND LTD), 22 March 2002
(2002-03-22)
D3 : PATENT ABSTRACTS OF JAPAN vol. 1999, no. 14, 22
December 1999 (1999-12-22) -& JP 11 248228 A (MATSUSHITA
ELECTRIC IND CO LTD), 14 September 1999 (1999-09-14)

2 INDEPENDENT CLAIM 1

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parenthesis applying to this document):

A method of controlling a compressor (item CP1) operable to compress refrigerant at a variable operation frequency, said method comprising the steps of :

- (a) allowing the compressor (CP1) to start (see figure 3, upper part for compresor CP1);
- (b) allowing the compressor to operate at a first frequency (SA) for a first period of time (T1) just after said step (a);
- (c) allowing the compressor to operate at a second frequency (S3) lower than the first frequency (SA) for a period of time (T2+T3) longer than the first period (T1) just after said step (b); and
- (d) allowing the compressor (CP1) to operate at an ordinary operation after said step (c).

3 INDEPENDENT CLAIM 16

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 16 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parenthesis applying to this document): A controller (see also figure 2, items CO,V1) for controlling a compressor (CP1) including a compressing element (CP1) operable to compress refrigerant, and a motor element (M1) operable to drive the compressing element (CP1) to operate at a variable operation frequency, said controller (CO,V1) comprising a driving section (V1) for driving the motor element (M1) and a controlling section (CO) for controlling the driving section (V1), the controlling section (CO,V1) being operable to allow the motor to start operating and to allow the compressor to operate at the same steps (b) to (d) as already discussed for claim 1 (see this opinion par. 2.1).

4 INDEPENDENT CLAIM 25

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 25 is not new in the sense of Article 33(2) PCT. Document D2 discloses (the references in parenthesis now applying to this document, see the abstract and figures 1 and 3, the line indicated with squares in figure 3 is showing the compressor speed after start-up): A compressor (2) comprising an airtight container (2) for accomodating refrigerant and lubricant, a compressing element being lubricated by the lubricant, a motor operable to drive the compressing element at a variable frequency, a motor driving section and a controlling section operable to carry out the steps (a)-(d) as already discussed for claim 1. Document D3 also discloses all these features (see fig. 12, upper line showing compressor speed after compressor start).

5 DEPENDENT CLAIMS 2-15, 17-24, 26-37

Dependent claims 2-15, 17-24 and 26-37 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

6 INDUSTRIAL APPLICABILITY

Claims 1-37 are deemed to be industrially applicable (Art. 33(4) PCT).